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| 10/648,743 | 08/26/2003 | Robert M. Grow | P8850C | 3732 |

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CAVEN & AGHEVLI
c/o INTELLEVATE, LLC
P.O. BOX 52050
MINNEAPOLIS, MN 55402

| EXAMINER |
|---|
| WILSON, ROBERT W |

| ART UNIT | PAPER NUMBER |
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| 2619 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/648,743 | GROW, ROBERT M. |
| | Examiner | Art Unit | |
| | ROBERT W. WILSON | 2619 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>15 February 2008</u>.

2a)☐ This action is **FINAL**.    2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1,7,13 and 19-29</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>13,25-27 and 29</u> is/are allowed.

6)☒ Claim(s) <u>1,7,19,22 and 28</u> is/are rejected.

7)☒ Claim(s) <u>20,21,23 and 24</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

## *Claim Rejections - 35 USC § 102*

1.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless —
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
> sale in this country, more than one year prior to the date of application for patent in the United States.

2.      Claims 1 & 7 are rejected under 35 U.S.C. 102(B) as being anticipated by Heddes (U.S.

Patent No.: 5,311,509).

Referring to claim 1, Heddes teaches: a method of transmitting data frame to a plurality of output
ports, each of the data frame having a destination associated with one of the output ports (Figure
1 performs the method) , the method comprising:

at each of a plurality of input ports, portioning a portion of each data frame to provide one or
more order data cells having data representative of a sequence number corresponding with the
output port associated with the destination of the data frame the data representative of the
sequence number in each data cell indicating an ordinal position of the data cell among the
ordered data cell of the data frame (at each of the plurality of transmitter  or input ports per Fig 1
receive user packet which is segmented or partitioned into a plurality of cells.  Each cell has
destination address for the appropriate output port in ADDR.0-ADDR.1 per Fig 3 and a SEQ or
sequence number per Fig 3.  SEQ is used to represent the ordinal position of the data cell or
frame per col. 3 line 49 to line 67 and per col. 6 line 37 to col. 7 line 20)

at each of the output port, receiving a forwarded data cell for each order data cell associated with
each data frame having a destination associated with the output port, each forwarded data cell
corresponding with an ordered data cell and data frame associated with the ordered data cell and
determining an ordinal position of the forwarded data cell among the forwarded data cell
associated with the data frame based upon data in the forwarded data cell representative of the
sequence number (at each receiver or output port per Fig 1 the received forwarded cells which
are associated with a segmented user frame have a destination address associated with the output
port in ADDR.0 to ADDR.1 per Fig 3 .  Each of the forwarded cells have a SEQ per Fig 3 which
is a sequence no which is used to determine the ordinal position of the forwarded cell per col. 3
line 49 to line 67 and per col. 6 line 37 to col. 7 line 20)

Referring to claim 7, Heddes teaches:  a data switch (Figure 1) comprising:

a plurality of output port for transmitting forwarded data forwarded to destinations (a plurality of transmitters or output ports per Fig 1 transmit the reconstructed user packet to a destination per cell per col. 3 line 49 to line 67 and per col. 6 line 37 to col. 7 line 20)

a plurality of input ports for receiving data frame each received data frame having a destination associated with one of the output ports each of the plurality of input ports including logic for partitioning a portion of each received data frame to provide one or more ordered data cells a having the data representative of a sequence number corresponding with the output port associated with the destination of the received data frame, the data representative of the sequence number in each order data cell indicating an ordinal position of the ordered data cell among the order data cell of the frame (a plurality of transmitters or input ports per Fig 1 receive a user frame per col. 3 line 56 and the background clearly indicated that user frames have destination address per col. 1 lines 40-43 which are associated with an output port. Each of the plurality of transmitter or input ports per Fig 1 receive user packet which is segmented or partitioned into a plurality of cells via inherent logic Each cell has destination address for the appropriate output port in ADDR.0-ADDR.1 per Fig 3 and a SEQ or sequence number per Fig 3. SEQ is used to represent the ordinal position of the data cell or frame per col. 3 line 49 to line 67 and per col. 6 line 37 to col. 7 line 20)

wherein each of the output port receives forwarded data cells, each forwarded data cell corresponding with an ordered data cell generated at one of the input ports and having data indicative of the sequence number of the corresponding ordered data cell and includes logic for determining an ordinal position of the forwarded data cell among the forwarded data cells of the forwarded data frame based upon the data indicative of the sequence number in the forwarded data cell (Each of the receivers or output ports per Fig 1 received forwarded cells which are associated with a segmented user frame have a destination address associated with the output port in ADDR.0 to ADDR.1 per Fig 3 . Each of the forwarded cells have a SEQ per Fig 3 which is a sequence no which is used to determine the ordinal position via inherent logic of the forwarded cell per col. 3 line 49 to line 67 and per col. 6 line 37 to col. 7 line 20)

### Claim Rejections - 35 USC § 103

3.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.      Claims 19 & 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heddes

(U.S. Patent No.: 5,311,509) in view of Chuissi (U.S. Patent No.: 5,689,500)

Referring to claim 19, Heddes teach the method of claim 1 and further including each of the
output ports includes logic indicting the availability of buffer space for receipt of additional cell
from a switching fabric (Buffer Mgr or logic keep track of availability per col. 5 lines 10 to 23)

Heddes does not expressly call for: crossbar switch

Chiussi teaches: crossbar switch per Fig 11.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add
the crossbar switch of Chuissi in place of the switching fabric of Heddes because a crossbar
switch in non-blocking and will thus improve the performance.

Referring to claim 22, Heddes teaches:  the data switch of claim 7 and further including each of
the output ports includes logic indicting the availability of buffer space for receipt of additional
cell from a switching fabric (Buffer Mgr or logic keep track of availability per col. 5 lines 10 to
23)

Heddes does not expressly call for: crossbar switch

Chiussi teaches: crossbar switch per Fig 11.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add
the crossbar switch of Chuissi in place of the switching fabric of Heddes because a crossbar
switch in non-blocking and will thus improve the performance.


5.      Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heddes (U.S.

Patent No.: 5,311,509) in view of Larsen (U.S. Patent No.: 6,157,514)


Referring to claim 28 Heddes teaches: the data switch of claim 6 and reassembly buffers to
receive the forwarded data cells to each output port (buffers and buffer manager per col. 5 lines
10 to 23)

Heddes does not expressly call for: ASIC

Larsen teaches: ASIC per Fig 9 and per col. 9 line 13 to 41.

It would have been obvious to one of ordinary skill in the art at the time of the invention to
utilize an ASIC with a memory and buffer manager of Larsen in place of the buffer manager and
memory of Heddes in order to utilize an integrated circuit to perform the memory and buffer
management function and thus save space.

### Allowable Subject Matter

6.      Claims 13, 25-27, & 29 are allowed. The following is an Examiner's statement of reasons
for allowance:  Claims 13, 25-27, & 29 are considered allowable since no other prior art
reference alone or in combination teach the following limitation in the independent claim:

"look-up engine for receiving the data packets from the host computer addressed to one or more
of the network devices and forming intermediate data frames based upon the data packet, the
intermediate data frame having a data payload and information identifying an output port
associated with the one or more network devices" as specified in claim 13.

7.      Claims 20-21 & 23-24 are objected to as being dependent upon a rejected base claim, but
would be allowable if rewritten in independent form including all of the limitations of the base
claim and any intervening claims.

### Response to Amendment

8.      Applicant's arguments with respect to claims 1, 7, 13, & 19-29 have been considered but

are moot in view of the new ground(s) of rejection.

### Conclusion

9.      Any inquiry concerning this communication or earlier communications from the

examiner should be directed to ROBERT W. WILSON whose telephone number is (571)272-

3075.  The examiner can normally be reached on M-F (8:00-4:30).

         If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jay Patel can be reached on 571/272-2988.  The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system.  Status information for published applications

may be obtained from either Private PAIR or Public PAIR.  Status information for unpublished

applications is available through Private PAIR only.  For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


/Robert W Wilson/
Primary Examiner, Art Unit 2619

RWW
5/7/08